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GENERAL REVIEW OF CHINA'S FORESTRY SITUATION, 1949-1951

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(Collected Documents and Essays
on China's Timber Industry 1950-51)
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[Summary: This report presents Section 1 of the above monograph. It includes forestry plans and goals for 1950 and 1951 as set forth in directives by the GAC (Government Administration Council) of the People's Republic of China. It reviews forestry conditions in China from 1949 to 1951 and reveals losses by fire and other causes. It gives statistics of afforestation programs, discusses timber production techniques, and indicates improvement in quality and efficiency of timber production facilities and equipment. It also discusses weaknesses and problems, particularly the problem of providing an efficient cadre force for forestry work.]

A. Directive of GAC on Forestry Activities

1. Current Policy and Responsibility

China's forested area amounts to 5 percent of her land area. There is a definite shortage of timber and in view of the construction program proposed for the nation, energetic, well-planned and well-executed measures are necessary to expand forestry resources.

2. Plans for 1950

a. Protect forests by action on all government levels to basically eliminate all elements that pose a threat to forest safety.

b. Seal off mountain forest areas and afforest a total of 43,120,000 mou, including 43 million in the Northwest and 120 million in Northeast.

c. Accumulate 3,684,825 catties of all sorts of tree seeds by regions as follows:

	No of Catties
North China	1,295,145
Northwest	97,000
Central-South China	317,680
East China	1,951,000

d. Develop 492,230,000 seedlings as follows:

	No of Seedlings
North China	41,250,000
Northwest	7,130,000
Central-South China	5,490,000
East China	199,210,000
Northeast and Inner Mongolia Autonomous Region	199,210,000

e. Plant trees, seeds, and cuttings on 1,771,842 mou as follows:

	No of mou
North China	1,083,042
Northwest	72,138
Central South	59,672
East China	272,400
Northeast and Inner Mongolia Autonomous Region	274,590

f. Cut a total of 4,057,382 cubic meters of timber as follows:

Northeast including Inner Mongolia Autonomous Region	3,870,000 cu m
Northwest (T'ao Ho Basin)	53,500 mou
Southwest	56,000 mou
North China	77,882 mou

g. Build 287 kilometers of new timber area railways in the Northeast.

h. Cadre training:

Ministry of Forestry will train 600 forest surveyors, 500 of them in the Northeast.

All areas will organize training classes among present working cadres as circumstances indicate the need, especially to develop nursery technicians on an apprenticeship basis to raise political, cultural, and professional attainments. Lecture courses should also be held for model forestry workers and activists who have shown unusual ability in forest protection and afforestation.

3. Problems of Nursery Development, Timber Cutting, and Forest Protection

Provision should be made for nursery sites during land reform and for the management of such sites by the hsien authorities so as to provide for their continuous cultivation until such time as the nurseries can be developed.

Publicly owned forests (including national forests) should be administered by the Ministry of Forestry or delegated agencies. The military, schools, or industry should not exploit such forests under any pretext whatever. Under exceptional circumstances of need, the military may secure permission of the controlling agency, above Special Administrate District level, to cut timber, but must follow cutting regulations and must pay the usual prices.

4. Organization of Forestry Organs and Leadership Problems

In administrative areas where forestry is important the agriculture and forestry departments should establish central forestry bureaus.

Provincial governments should include agriculture and forestry departments and, when necessary, organize forestry bureaus under the departments.

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When circumstances require, the Special Administrative Districts may reorganize their agricultural sections into agriculture and forestry sections with one or two persons designated to deal with forestry matters.

Persons responsible for the agricultural matters in the ch'us may also assume responsibility for forestry matters. In case it seems necessary, hsiang and ts'un authorities or peasants associations may appoint a forestry committeeman (who shall not, however, drop production activities) to promote forestry interests within the ts'uns and hsiangs.

State-operated forestry enterprises (such as logging companies, timber railways, and timber processors), by order the Central People's Government, may be placed under control of the administrative area forestry organs. Local authorities have responsibilities for supervising, inspecting, and giving assistance.

All forestry authorities and workers must observe the above regulations.

B. New China's Forests

In 1950, timber loss in China from fire amounted to 2,800,000 cubic meters. This was a reduction of 35 percent as compared with fire loss in 1949.

In 1950, some 2,000 surveyors in the Northeast surveyed forest reserves of over 4 million cubic meters. China has 4 billion mou of land suitable for afforestation. The present area under timber is estimated at about 1,300,000,000 mou with a total estimated reserve of 51 billion cubic meters of timber. However, since detailed nationwide surveys have not been made, these figures cannot be fully verified, and for the same reason, a definite plan of nationwide exploitation of those resources is difficult to project. Hence a proper nationwide survey is a basic necessity.

In 1950, 128,000 peasants, using 93,991 work animals harvested over 4 million cubic meters of timber in the Northeast. Another 500,000 cubic meters was harvested in the Inner Mongolia Autonomous Region and Shansi Province. This was, however, much below actual requirements and still farther below future requirements. Total loss of timber from all causes was 2,800,000 cubic meters of which 92.8 percent was by fire. By employment of the masses in both fire prevention and afforestation great results can be achieved. For instance, in Liaosi, 250,000 people planted 12 million trees in 1950.

In 1950, the height of stumps was reduced from 70 centimeters to 30 centimeters with a resulting saving of 250,000 cubic meters of timber in the Northeast. Another 50,000 cubic meters was saved by better use of top timber.

C. New China's Forest Industry

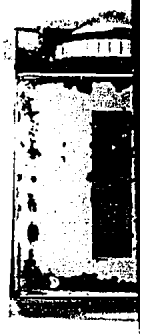
1. Forestry in the Old Order

During 1927-1940, customs statistics reveal that imports of timber, paper, rayon, and wood pulp amounted in value to 33 million yuan (national currency). In 1946, timber imports reached a value of 28 billion yuan and wood products a value of 98.3 billion yuan.

2. Forests in New China

The 1950, two-season goal of planting 66 million trees in the Northeast was fulfilled in one season. The North China goal of 215 million trees was half completed in the spring season.

During the autumn of 1949 and the spring of 1950, 90,000 mou of bare sand was planted with trees. The 1949-50 cutting goal of 3,870,000 cubic meters of timber in the Northeast (the allotted period was fall 1949 to fall 1950) was completed in the spring of 1950 with 7,000 fewer personnel.



Fifty-two percent of China's forested area is in the Northeast and 60 percent of the forest reserves. Even at the present accelerated rate of afforestation it would require 2,500 years to afforest China's 4.3 billion mou of land available for afforestation.

Forestry plans, briefly, are as follows:

a. Conduct short-course schools for forestry technicians to build up a reserve force of technicians.

b. Set up and expand decay-prevention stations; meet consumers specifications, see that products meet standards so as to conserve timber.

c. Plan for development of the Greater Khingan forests to permit revival of the Lesser Khingan and Ch'ang-pai Shan forests.

d. Greatly increase afforestation and sealing off of mountain forests. Substitute cooperative forestry activity for the sporadic efforts of individual peasants.

e. Establish protective forests in the upper reaches of the Yung-ting Ho and the Yellow River, rubber plantations in Hainan, and tung oil plantations in Szechwan, Kweichow, Kwangsi, Hunan, and Chekiang provinces.

D. Two Years Progress in Forestry

The national afforestation goal for 1951 was set at nearly 70 percent greater than the 1950 goal [177 million mou] and during the spring season alone over 86 percent of this goal was achieved. During 1950 and 1951, some 7,800,000 mou of mountain forests were sealed off.

With only some 200 graduates of forestry departments of universities, China needs to train forestry leaders. During 1950-51, some 2,600 persons have been in university forestry classes and nearly 6,000 persons have studied in short courses. It is expected there will be 20,000 trained forestry operators prepared within 3 years.

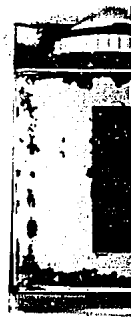
E. Actions of the GAC on 1951 Forestry Activities

The forestry goals for 1951 set by the Government Administration Council call for afforestation of 2,200,000 mou, the raising of 560,000 mou of seedlings, and sealing off of 8 million mou of mountain forest areas for natural growth.

F. 1950 Achievements and 1951 Plans by the Ministry of Forestry and Land Reclamation

In 1950, timber losses from fires in the Northeast and Inner Mongolia Autonomous Region were reduced from the 1949 total of 4 million to 2,800,000 cubic meters. The 1950 figure for accomplished organized afforestation was 1,630,000 mou. In addition, 334 million trees were planted in unorganized activities.

During 1950, partial surveys of timber reserves were made in all the chief timber producing areas. Throughout the country some 550 new special forestry agencies were set up. Much consideration has been given to training forestry personnel. In 1950, there were only 102 forestry course graduates in the country. The estimated number for 1951 is only 98. As a result of agitation on this matter, in the June 1951 National Higher Education Conference some 693 persons enrolled for forestry courses. In 13 institutions throughout the country there are 1,084 students enrolled in strictly scientific courses. Some 3,000 others are taking forestry cadre training courses.



During 1950, there were 2,673 forest fires that damaged 2,600,000 cubic meters of standing timber which was 92 percent of the total damage to timber. Other damage to forests was caused by uncontrolled cutting by civil and military government agencies and the populace. Some 56,700,000 mou of timber land was thus ravaged. This is 35 times the area afforested in the same year.

There are shortcomings in the organization for a proper program of afforestation. Either there has been insufficient organization with uneven results or the plans have been too grandiose making it necessary to use compulsory methods to get work done, with resulting dissatisfaction. There has been considerable passive resistance: seeds disappearing, seedlings being buried, or already planted trees being surreptitiously pulled up. Faulty techniques in many places have resulted in total loss of planted seedlings or survival rates of only 0.5 percent. Heavy losses have also occurred in transporting seeds and plants from one part of the country to another.

In the Northeast, 58 percent of the forests are needle-leaf types. Of this, red pine constitutes 8 percent. However, 74 percent of the 1950 cut was needle-leaf and 36 percent was red pine. Such a cutting pattern will result in the speedy dissappearance of this most valuable of timbers. Furthermore, timbered areas near transportation facilities are being completely denuded of all timber while in more remote areas timber is being allowed to die of decay and old age. Consumers also cause much waste by refusing deciduous timber and by demanding only long timber which they cut up for uses just as well served by short timber.

At the November 1950 All-China Forestry Conference, a policy of unified logging and unified distribution was adopted. This, however, was too late to avoid a good deal of loss which had already resulted from poor controls.

Goals for 1951 are as follows:

Afforestation:	2,450,000 shih-mou [one shih-mou equals 667 square meters]
Nursery area:	56,000 mou
Survey of land for afforestation and nurseries:	2,646,000 mou
Sealing off mountain areas:	7,500,000 mou
Training basic forestry cadres:	4,200 persons
Forest surveys:	76,377,000 mou

To reach these goals it will be necessary to depend on the masses, strengthen leadership, and stabilize techniques.

The 1951 All-China Forestry Conference agreed in the matter of setting prices, that, with the exception of the Northeast and The Inner Mongolia Autonomous Region which already had a unified pricing arrangement, in other parts of the country a unified price agreement should be reached among local finance committees, forestry authorities, and consumers. They agreed that prices should be lower than market prices, and that they should be based on costs (direct and indirect), including cost of forest care, interest on loans, profits remitted to higher level organizations, and taxes. Prices to industries should be lower than prices to commercial enterprises. The chief consumers for whom provision should be made were state-operated industries, mines, and communications enterprises.

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It was also revealed at the National Forestry Conference in 1951 that during the first half of the year 34,500,000 mou of forests were damaged by fire or 12 times the amount afforested.

If measures are not taken to step up the supply, national construction plans will be slowed down. To show how this problem will be met, in the spring season of 1951 over 3 million mou of trees were planted, 2.6 percent over the goal for the year (and two and even three planting seasons a year can be carried out). In the Southwest, 206 percent of the year's goal was reached.

In all areas where new forestry developments are taking place, plans should be laid to produce an annual supply of XXXXX cubic meters of timber by the end of 5 years. In 30 years it should be possible to place under forests 2 billion mou of the present waste land suitable for forestry development.

During the 5 years beginning 1952, through 1956, the following objectives should be considered paramount:

1. Eliminate within one or 2 years all forest destruction caused by humans.

2. Beginning with 1952, conduct aerial and ground surveys in the Northeast, Southwest, and Northwest to get an accurate estimate of forest resources, construct forest railways, and set up logging schedules. All administrative and provincial authorities should organize groups of forestry specialists to survey wild land areas both level and mountainous and lay plans for well-organized afforestation and timber production.

3. In the Northeast and in the Inner Mongolia Autonomous Region construct XX kilometers of standard gauge and XX kilometers of narrow gauge forest railways and give attention to improvement of communications in the Southwest and Northwest.

4. Train large numbers of forestry cadres. In addition to the graduates from forestry departments of universities and special schools, each administrative area and province should select the most promising cadres and young intelligentsia for special training courses in forestry practice.

5. Use all the best available methods to develop and preserve forests. No government organ, military or civil, shall cut forests as a source of revenue to make up budget deficiencies, as has been the case in the past. In the use of timber the two cardinal principles to follow are economy of timber and the relation to the national construction program. In the interests of economy, enterprises should be restored or added such as plywood, factories, lumber processing plants, and decay treatment plants. To tie in with national defense and national construction, administrative area and provincial authorities should give attention to reconstructing or adding to plants for manufacturing or processing such important items as tanbark, resins, dry distillates, and camphor. Heretofore, students of above the level of lower middle school and youthful unemployed intelligentsia have been selected as cadres. Practically all of these people have now been absorbed. It is therefore necessary to relax restrictions and take in higher primary school graduates, older unemployed intelligentsia, discharged soldiers, and young peasants for training. To meet the urgency of the situation it will be necessary to give the cadre students quick training in only one or two skills, such as seed selection, nursery work, etc. This has been tried out in the Northeast and the Inner Mongolia Autonomous Region with good results.

The restoration of transport facilities and equipment after 1949 is shown by the following index figures:

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Item	1943	1949	1950	1951 (estimate)
Forest railways	100 (base)	83.4	101	110
Steam locomotives	100	184.5	235.3	249.5
Machinery for pulling timber out of streams	100	73.6	152.6	163.1
Tractors	--	--	100	111

With reference to commercial timber, taking 1943 as 100, the following production figures emerge:

1943	1949	1950	1951 (does not include 1950 autumn and winter figures)
100	95.7	100.1	76.7

The following figures indicate other progress:

Item	1943	1949	1950	1951 (estimate)
Rail transport of timber	100	147.1	194.0	199.5
Lumber production	--	100	261.4	200.0
Timber chemical products	--	--	100	200

Lowering the height of stumps has continued year by year and by 1951 some lumbering areas were cutting the timber level with the ground. There has also been progress in the use of top material. In 1949, the top materials used amounted to 1.2 percent of the total production, in 1950, 4.2 percent, and at present [1951] some logging areas are using top materials for as much as 10 percent of total production. Through lowering stumps and increasing use of top material an additional 490,000 cubic meters of timber has been produced.

In the matter of transport, by switching from chief dependance on hauling on snow roads to rafting, efficiency has increased by 200 to 300 percent and costs have been cut. The amount of labor required per cubic meter has been reduced by 15 units [units not specified]. In 1950, over 200,000 cubic meters of timber was saved by taking advantage of the early spring high water for water transport.

The hauling capacity of locomotives on the timber railway lines was increased by 12.5 percent in 1950 and by 25 percent (estimate) in 1951 over 1949. The possible speed of trains on timber rail lines in 1950 was increased 30 percent over 1949 and 66.3 percent in 1951. Lumber production in 1949 equaled 1943 production, surpassed it by 14.3 percent in 1950, and is estimated at an increase of 14.7 percent in 1951.

During 1950, 3,463 kilometers of firebreak strips were cleared, 209 watch towers built, and 1,310 kilometers of telephone lines strung. There are 283 new and reconstituted nurseries. During the last 3 years some one billion seedlings have been produced. Afforestation has made correspondingly good progress. Considering 1949 as 100, the afforestation index for 1950 was 307 and for 1951 the estimate calls for 1,000.

Timber railways have increased efficiency of operations. In 1950, efficiency of locomotive turnaround time increased 25 percent over 1949, and 1951 estimates call for a 33 percent increase. Locomotive daily mileage increased 28 percent in 1950 over 1949 and should increase by 50 percent in 1951. The production of each saw gang in the mills increased by 156 percent over 1949 in 1950 and should reach a 203 percent increase over 1949 in 1951.

In most lumbering areas in 1951 efficiency was raised by 40 percent by the use of machinery to pull rafted timber out of the streams. By the use of tractors in production areas for timber hauling, in 1950 the quantity hauled was 10 times that possible to be hauled on snow roads /presumably on sleds drawn by animals/.

Because of improved management and operation the living standards of the lumbermen rose 5 percent over 1949 in 1950 and 21.3 percent in 1951. Workers also are granted from 10 to 50 labor credit points a month as a bonus for working in the woods. Food quality and safety conditions are constantly improving.

In East China, during 1950, an estimated 98 million trees were planted. Some 700,000 mou of mountain land were sealed off to permit forest growth. This was mostly in Shantung.

At Foochow, in 1950, there were 1,912,000 logs amounting to some 50 million board feet, mostly pine and cypress, awaiting transport to other places. Transport was lacking at that time.

According to the Ministry of Forestry and Land Reclamation during 11 months of 1951 there were 3,399 cases of forest losses of which 79 percent resulted from fire, 14 percent from bad logging, 7 percent from theft. The percentage of losses by areas were: Northeast 71 percent, North China 12 percent, Central-South China 5 percent, Inner Mongolia Autonomous Region 4 percent, East China 3 percent, and the Northwest one percent.

The total area damaged was 32 times the area afforested.

The timber cutting quota for Central-South China in 1951 is 900,000 cubic meters. This quota will be made up chiefly of railway ties, telephone poles, and mine props.

Due to the very serious shortage of cadre forces in Central-South China, an appeal has been made to the Ministry of Forestry to find 50 cadres from the various university forestry departments. Short-term training courses should be set up by national, administrative area, and provincial authorities. No prior educational attainments should be required of trainees, since what is to be learned is purely practical; theoretical matters can be left till later. Also because of the shortage of cadres, pure research in such matters as rubber and tung oil in Central-South China will have to be postponed except for such as can be carried on in the field.

In the Nan Shan, a short distance south of Urumchi, Sinkiang, there is an area of some 8,086 hectares covered with "cloud" cypress, locally called pine, which has a density of 80,000 trees per hectare and the trees are above 8 centimeters in diameter. This is the source from which the city of Urumchi draws most of its timber supplies. The forest is also very important in conserving the irrigation water supply of the area. In the past the logging practice here has been wasteful, with stumps up to a meter high and rejection of toppings less

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than 10-odd centimeters in diameter. In felling, often as many as ten other trees would be damaged. Only center logs were taken and these were axe-cut trees, a great deal of wood having been wasted in chips. A great many trees were rejected after cutting because of heart rot, crookedness, knots, worm holes, etc. In getting the timber down the mountain sides from 10 to 20 percent of the logs would be broken. In the timber yards from 20 to 30 centimeters were sawed off log ends to meet specifications. In cutting lumber, slabs were often rejected.

Therefore, it is necessary to adopt a new policy with regard to this forest as follows:

1. Cease cutting operations temporarily.
2. Transport from the forest all down timber over 6 centimeters in diameter.
3. Clean the forest of all useless waste by collecting and burning it.
4. Seal off the forest for recovery growth.
5. Control forest grazing.
6. Coordinate logging with minimum public and private requirements.
7. Provide suitable communication and transport facilities.
8. Provide treatment to prevent decay.
9. Collect forest rejuvenation dues to support rejuvenation.
10. Strengthen organization and leadership.

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